ERIC Document Resume	See Instruction Sheet	DATE OF RESUME 8/9/65	DATE RECEIVED

A. PUBLICATION DATA

ERIC NUMBER	2. ORIGINATOR CONTROL NO(S).	3. IDENTIFICATION NO.	DO NOT WRITE IN SPACE BELOW
ED000418	7170	N.A.	

4. AUTHOR(S):
Wexler, Norman

5. TITLE OF DOCUMENT ABSTRACTED:
Concurrent Validity of the Miller Analogies Test and Performance on Four Matriculation Variables by June 1959 Recipients of the M. Ed. Degree at Rutgers University

6. PUBLICATION TITLE:
N.A.

7. EDITOR(S):
N.A.

8. PLACE OF ORIGIN
ORG. Rutgers, The State University
ST.
CITY, STATE New Brunswick, N.J.
TELE. EXT.
INST/LOC CODE

9. PUBLISHER OR SOURCE
Rutgers, The State University

10. VOL.	11. PAGES	12. MO./YR.	13. TOTAL PP.
N.A.	N.A.	60	3

MICROFILM COPY AVAILABLE
YES ☒ NO ☐

COPYRIGHT GRANTED
YES ☐ NO ☒

COPYRIGHT RELEASE FILED
YES ☐ NO ☐

TYPE OF REPORT
PROPOSAL ☐
IN-PROGRESS ☐
FINAL ☒
FOLLOW-UP ☐

OTHER ERIC REFERENCES:

ERIC SATELLITE CODE

B. INDEXING DATA

14. SUBJECT AREA

15. TYPE OF ENDEAVOR
experimental study

16. INDEXING TERMS (6-12)

experimental studies	curriculum		
measurement	teacher education		
graduate education	evaluation	professional education	

17. ABSTRACT (MAX. 250 WORDS)

Summary of investigation to estimate extent to which the Miller Analogies Test might predict scholastic average, and to ascertain whether various curricula within the school of education differed significantly on four matriculation variables: Scholastic average for graduate work, field examination ratings, G.R.E. Advanced Education scores from comprehensive examination battery, and unofficial scores of Miller Analogies Test. Results show significant differences in performance among curriculums in each variable and that Miller's test is predicting success in these variables.

ERIC No.

18. SOURCE OF ABSTRACT

C. FUNDING DATA

19. SUPPORTING ORGANIZATION	20. DIVISION OR DEPT.	21. CONTRACT NO. / PROJECT NO.
	22. TOTAL COST OF PROJECT	
	23. DURATION OR PROJECT	U.S. Department of Health, Education, and Welfare Office of Education

C Form 1

U. S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE
Office of Education

This document has been reproduced exactly as received from the person or organization originating it. Points of view or opinions stated do not necessarily represent official Office of Education position or policy.

1960

ABSTRACT:

"Concurrent Validity of the Miller Analogies Test and Performance on Four Matriculation Variables by June 1959 Recipients of the M.Ed Degree at Rutgers University." IV-5 (Examinations)

Research conducted by Norman Wexler under the advisement of Dr. C. Winfield Scott.

Purpose: This project was an investigation of certain operational procedures concerning admission of students to graduate study, and the relationship of these procedures to their relative standing on four variables at graduation. The purpose was to ascertain whether various curriculums within the School of Education differed significantly on required matriculation variables. These results were to provide departmental committees with objective criteria for guiding and evaluating prospective candidates in accordance with observed disparities revealed by the study.

In the 1959-1960 academic year, the Miller Analogies Test was established as an admission requirement for graduate study. Since the existence of this requirement has not been in effect long enough to permit longitudinal research, a concurrent validity study was made in order to estimate the extent to which the Miller's test might predict scholastic average.

Procedures: The data on the 244 graduates consisted of (1) scholastic average for graduate work; (2) field examination ratings; (3) G.R.E. Advanced Education scores from the comprehensive examination battery; and (4) unofficial scores of the Miller Analogies Test which was administered to students taking the comprehensive battery in April 1959. Data for all four variables existed for 153 graduates.

Each variable was separated into seven groups X(1),X(2),...,X(7), where X(2),...,X(7) were single curriculums whose number of graduates were more than ten. X(1) was a combined group of curriculums each of whose number of graduates were less than ten. These sparsely populated groups were the more specialized curriculums which usually

ED000 418

draw a relatively small proportion of students.

A statistical summary by curriculum was prepared for each variable. To discover differences in mean performance, analysis of variance, fixed effects model, was made for each variable. These analyses were followed by Kramer's extention of Duncan's Multiple Range Test for significant differences between all possible pairs of means from samples with unequal numbers of observations. Consistency of performance by the curriculums was demonstrated by ranking their medians on each variable and comparing the agreement among rankings. The degree of agreement was manifested by Kendall's coefficient of concordance W and its linear function Spearman's mean rank inter-correlation. They were found to be .7 and .6 respectively, and significant at the 1% level in rejecting the hypothesis of no agreement.

In order to examine the inter-relationships of the variables, tables of intercorrelations were computed for the total sample having complete sets of data (N = 153) and for each of the seven groups. Two expectancy tables were formed to estimate the effectiveness of the Miller's test in selection of candidates. The success criterion in one table was placement in the upper sixth of scholastic standing in the graduating class, the other table with placement in the upper half. Along with the overall correlation between scores on the Miller Analogies test and scholastic average, a regression equation and its standard error of estimate were computed.

Findings: Significant statistical differences in performance among curriculums were found in each of the four variables. X(1) and X(2) were consistently high on all variables while X(6) and X(7) were consistently low. The agreement between variables is ranking medians suggests that the differences among curriculums are due to inherent dissimilarities of students rather than grading or other procedures.

The six intercorrelations ranged from .22 to .60 with an average intercorrelation of .35, each of which were significant at least at the 1% level in rejecting the hypothesis of zero correlations. This implies that each variable is loading on a general factor, presumably scholastic aptitude or intelligence. The .36 correlation between the Miller Analogies test scores and scholastic average and the .60 correlation between the G.R.E. scores and the Miller scores also imply that the Miller's test is in effect potentially predicting success in all three matriculation variables.

Inspection of the expectancy charts showed, by using various best quintiles, that as the cutoff score on the Miller Analogies test was arbitrary raised, the relative efficiency in selection over chance increased. As all members of the population were in reality successful at the outset of the study, the charts demonstrate the potential effectiveness of the Miller Analogies test in prediction.

It was also found that by using the regression equation and standard error of estimate in predicting scholastic average from a knowledge of the Miller score, a cutoff score could be derived which would predict the attainment of the minimum scholastic average required for graduation with a prescribed level of confidence.

In the near future, it remains for departmental committees to examine the educational significance of the observed differences among curriculums so that further refinements in selecting candidates might be made from the breakdown of statistical data by individual curriculum obtained by this study.